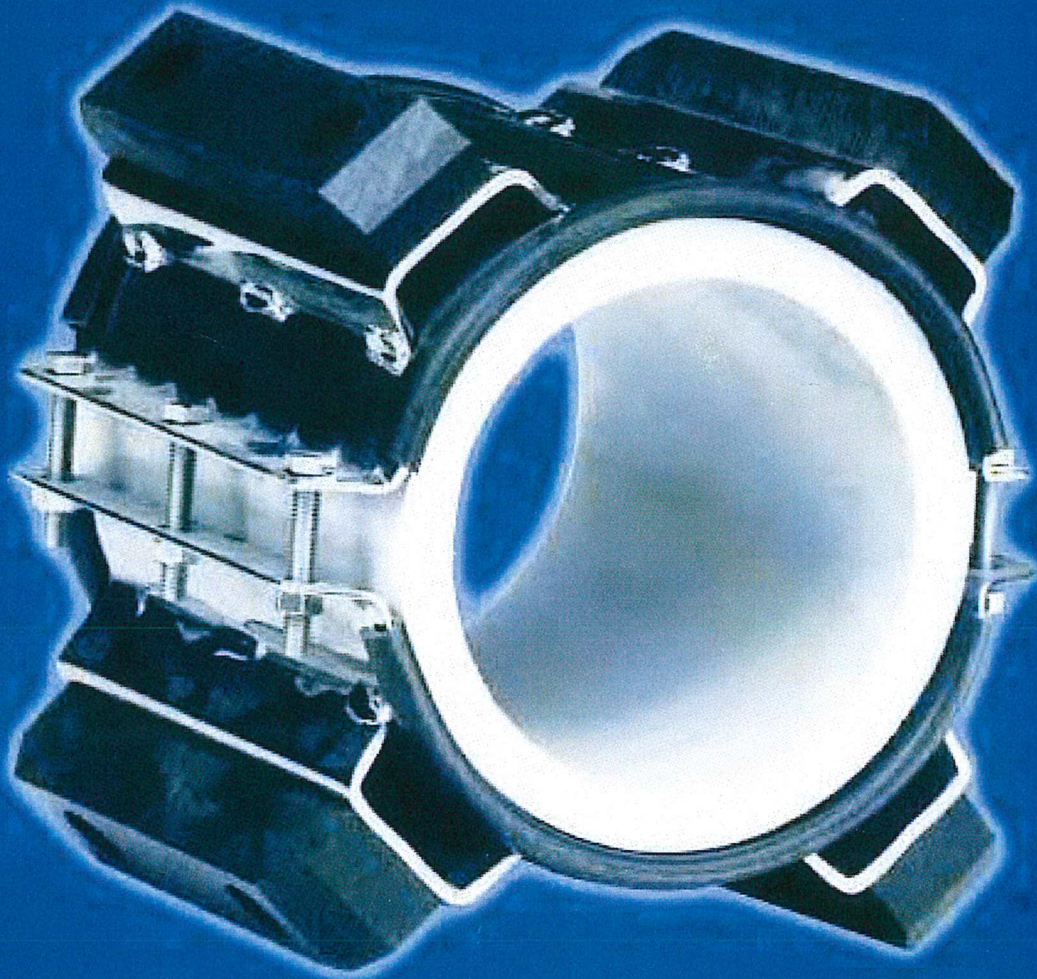


CASING SPACERS

***DESIGNED FOR
WATER, SEWER, OIL & GAS***



The BWM Company • P.O. Box 414 • Forest City, North Carolina 28043
Phone: 828.247.0630 • Toll Free 866 5 SPACER • Fax: 828.245.5494 • www.bwmcompany.com

BWM COMPANY

BWM will provide any type of casing spacer to fit your needs. We are uniquely positioned and we have years of experience and have thorough knowledge of your needs.

All of our casing spacers are engineered to meet any criteria that is required.

BWM is ready to answer your questions, provide you with quotes, and deliver your needs. We specialize in on time delivery, most within 24 hours and we work 24/7 for you.



- **BWM Company offers the following innovations**

All Runners are attached mechanically and can be changed in the field to adjust for grading or change of casing dimensions.

Stainless steel or carbon steel spacers are available with either 8-inch or 12-inch wide bands. Diameters are available from 3-inch through 120-inch. Runner configurations are available to match any application.

BWM offers an innovative line of polyethylene spacers. Polyethylene casing spacers are designed as an economical choice for pipes. The spacers are of an innovative design which allows for cutting in the field to adjust for sewer grades. Simple to install and economical.

BWM also offers a two piece all carbon steel spyder design. This is an economical and contractor friendly spacer. The spyder can be field adjusted by any contractor with a torch and welder.

- **BWM Company spacers are designed to ease installation of:**

Concrete Pipe
Ductile Iron Pipe
Plastic Pipe
Steel Pipe
Polyethylene Pipe

- **BWM Company spacer will accommodate:**

Mechanical Joint Pipe
Push-On Pipe
Restrained Pipe
Welded Joint Pipe

- **BWM Company offers the following:**

Standard, Centered, or Restrained Positions, and Multiple designed spacers into one casing. Positioning gravity sewer to on grade requirements. Painted, epoxy or poly coated steel.

Casing Spacers and End Seals designed for water or sewer pipelines.

BWM casing spacers are a proven and dependable way to install pipe or pipes into a casing pipe. They will drastically reduce the overall cost by simplifying the assembly and speed of installation. BWM casing spacers eliminate the need to fill the casing annulus with sand, grout or pea gravel, which acts as an electrolyte that can introduce unwanted current to the steel or ductile iron casing pipe.

BWM COMPANY

Casing spacers and end seals are a time tested and proven means of providing support and to electrically insulate a pipeline from a casing pipe. As an engineer, when designing a river crossing, canal crossing, bridge crossing as well as highway and rail crossings. You need to provide your clients the best system available. BWM casing spacers and end seals will reduce the overall cost of inserting water and sewer lines into casings. A single worker can install BWM casing spacers, they are corrosion proof, no special tools are needed, and no grease is used. BWM casing spacers also eliminate the need to fill the annulus with sand, which is extremely labor intensive. When sand is used in the annulus it acts as an electrolyte thereby introducing unwanted current to the steel or ductile iron. BWM specified casing spacers will make your design complete by providing long term corrosion protection, reduce maintenance cost and give longevity of your piping system.

When you specify BWM casing spacers in your system, you are giving your clients the best casing spacer in the industry. BWM engineers all spacers to meet the requirement of your system. We start with quality stainless steel, for strength and corrosion resistance. We use 10 gauge stainless risers, properly welded in position for durability and strength when pushing through long runs of casing. Our stainless steel bands all have embossed flanges for added strength when tightening the stainless steel flange bolts. Our bands have a PVC inner liner, designed not to slip and give insulation and protection of the carrier pipe and coating. We also provide abrasion resistant runners that minimize friction between the casing pipe during installation. Our runners are designed to be changed in the field if it is required to bring grading back to the engineered level. To specify the BWM casing spacer we have providing the following for your consideration.

Specifications and Certificate of Compliance for the: Model BWM SS-8 Casing Spacer 3-inch through 24-inch

CASING SPACER:

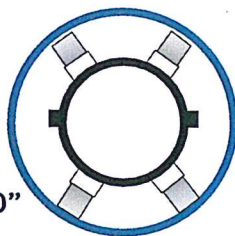
The Casing spacer shall be constructed of a circular, 8-inch wide, 14-gauge stainless steel band, which bolt together forming a shell around the carrier pipe. The spacers shall have a combination of four 10-gauge risers MIG welded to the bands and 2-inch wide high strength glass filled polymer runners. The runners and risers shall be placed in position to properly support the carrier pipe within the casing and maintain a minimum clearance of $\frac{3}{4}$ -inch between the casing ID and the spacer OD. All runners shall be attached with stainless steel nuts, to stainless studs, which are permanently MIG welded to the risers. The runners will have a recess in which the nuts are placed; the recess shall remain open to accommodated removal if required to adjust.

The liner shall be a ribbed PVC extrusion, with a thickness of .125-inch, with hardness of Durometer "A" 85-90.

The runners shall be of high pressure molded glass reinforced polymer with a minimum comprehensive strength of 25,000 psi, 2-inch wide and a minimum length of 7-inch. The ends of the runners shall be beveled to facilitate installation over rough weld beads or deformed casing pipe.

All hardware shall be 304 stainless steel.

The casing spacers shall be model BWM-SS-8 for up to 24-inch diameters and model BWM-SS-12 for larger sizes as manufactured by the BWM Company, Forest City, NC. or approved equal. Alternate considerations of other manufacturers of casing spacers shall be submitted to the engineer 14-days prior to bid opening.



Sizes 4" - 20"

Specifications and Certificate of Compliance for the: Model BWM SS-12 Casing Spacer 26-inch through 105-inch

CASING SPACER:

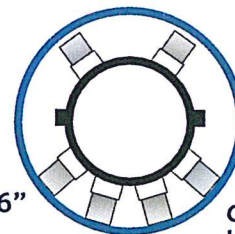
The Casing spacer shall be constructed of a circular, 12-inch wide, 14-gauge stainless steel band, which bolt together forming a shell around the carrier pipe. The spacers shall be designed with the amount of runners and risers, as our engineering deems necessary. The runners and risers shall be placed in position to properly support the carrier pipe within the casing and maintain a minimum clearance of $\frac{3}{4}$ -inch between the casing ID and the spacer OD. All runners shall be attached with stainless steel nuts, to stainless studs, which are permanently MIG welded to the risers. The runners will have a recess in which the nuts are placed; the recess shall remain open to accommodated removal if required to adjust.

The liner shall be a ribbed PVC extrusion, with a thickness of .125-inch, with hardness of Durometer "A" 85-90.

The runners shall be Ultra High Molecular weight Polymer (UHMW) with compression strength of 18,000 psi, with a minimum length of 11-inch. The ends of the runners shall be beveled to facilitate installation over rough weld beads or deformed casing pipe.

All hardware shall be 304 stainless steel.

The casing spacers shall be model BWM-SS-12 as manufactured by the BWM Company, Forest City, NC. or approved equal. Alternate considerations of other manufacturers of casing spacers shall be submitted to the engineer 14-days prior to bid opening.

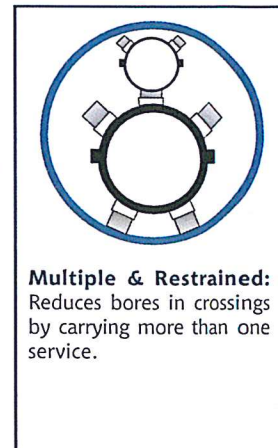
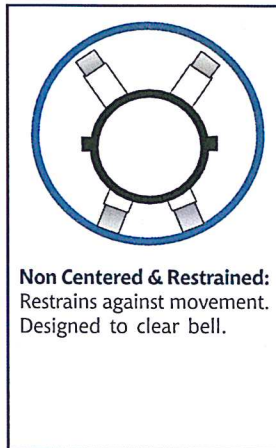
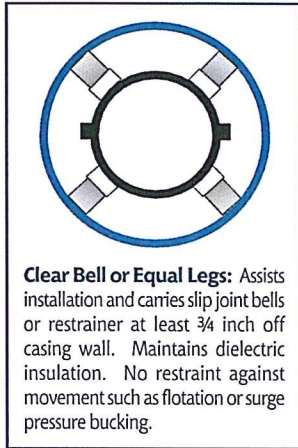


Sizes 24" - 36"

Consult Factory for
larger sizes

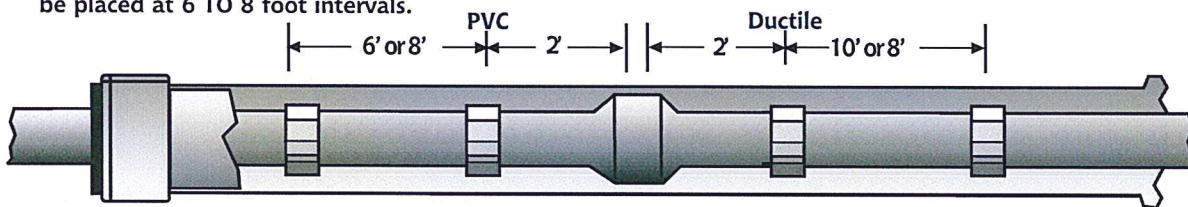
CARRIER PIPE	CASING I.D.	RUNNER	RISER	BAND	BOLTS	LINER	EAR	HOLE Ø

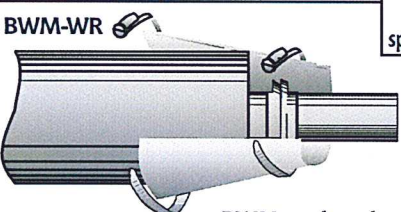
BASIC POSITIONS



PLACEMENT OF SPACERS ON CARRIER PIPE

- **Standard-** One spacer shall be placed not more than two feet from each end of the casing. Subsequent spacers shall be placed at 10-foot intervals within the casing.
- **PVC Carrier-** One spacer shall be placed on the spigot end of each segment. Subsequent spacers shall be placed at 6 TO 8 foot intervals.

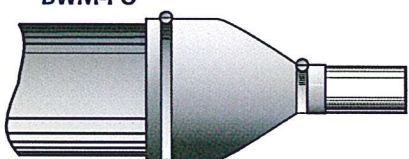




BWM-WR

**BWM-End Seals Model
BWM-PO & BWM-WR**
specifications and certificate of compliance

Temperature Limits: -20F to 221F
Color: Black
Finish: Smooth
Durometer: 65 shore A +/- 5
Elongation: 250%

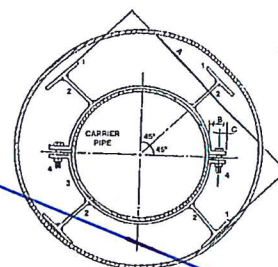
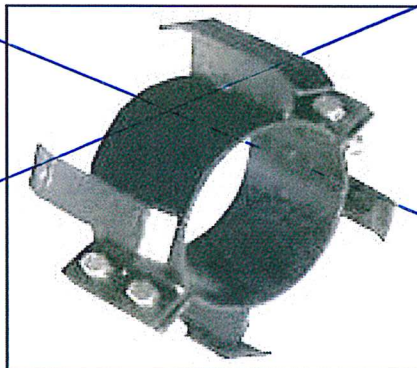
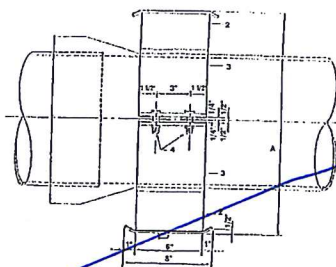


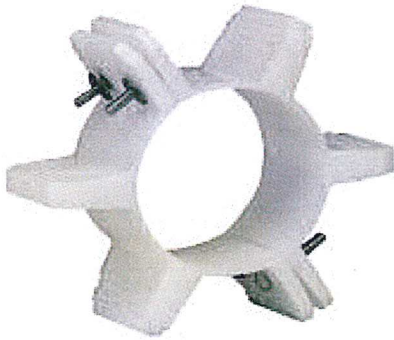
BWM-PO

BWM end seals either Pull-On, (BWM-PO) or Wrap around (BWM-WR) is manufactured of 1/8" thick, neoprene rubber, assuring excellent chemical resistance and resiliency. All end seals include 1/2" wide T304 stainless steel banding with non-magnetic worm gear mechanism.

The BWM Spyder (NOT PERMITTED)

This spacer is manufactured entirely of ASTM A-36 steel. All joints are MIG welded and the coating is to AWWA C-210 specifications. All Spyder spacers can be field adjusted by cutting and field welding.





THE BEST POLY SPACER AVAILABLE

- Simple to Install
- No Special Tool Required
- Extra Strong
- Solid Construction
- Nut is built into Mold

Model KP Poly Spacer MATERIAL SPECIFICATIONS

- DIELECTRIC STRENGTH
(ASTM D-149 step by step method) 400-500 volts/mil
- COMPRESSIVE STRENGTH
(ASTM D-695) 3200 psi
- FLEXURAL YIELD STRENGTH
(ASTM D-790) 1000 psi
- TENSILE STRENGTH
(ASTM D-638, D-651) 3100 - 5500 psi
- IMPACT STRENGTH
(ASTM D-256) 4.0 ft lbs/in of notch
- WATER ABSORPTION
(ASTM D-570) <0.01%
- MAX. CONTINUOUS OPERATING TEMP.
225°F



Model KP Poly Spacer

The KP poly spacers are molded in two sections, and designed for simple field installation. The legs are solid and will not collapse, wear, or tear when pushed into the casing. They require only a screwdriver to assemble using using integrated threaded inserts with stainless steel hardware. To prevent slippage on the ductile size pipe we have molded grooves on the inner surface. For SDR-35 sewer pipe and IPS pipe we use a rubber inner liner to prevent slippage.

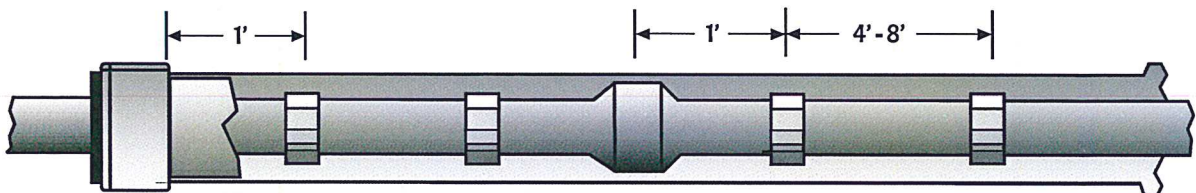
The KP poly spacers are specifically designed to center the bell inside the casing pipe. In the event that the casing pipe is undersized or off grade, *the molded legs can be manually cut on the cutting guides built into every leg.* This is a BWM exclusive, which makes stocking our spacers a breeze.

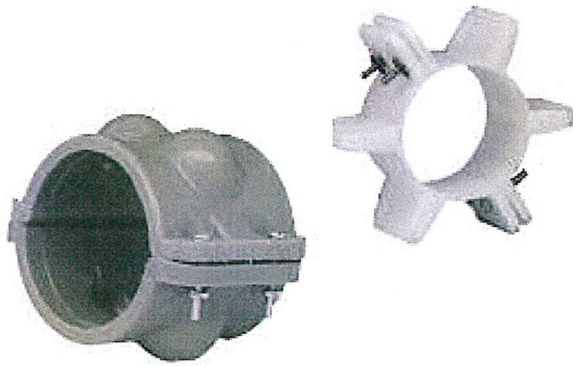
DUCTILE SIZE			
Model No.	Size	Diameter Over Runners	No. of Runners
KP-4.80	4.80	9.125	6
KP-6.90	6.90	10.930	6
KP-9.05	9.05	14.435	6
KP-11.10	11.10	16.250	6
KP-13.20	13.20	18.125	6

SDR-35 Sewer Pipe			
Model No.	Size	Diameter Over Runners	No. of Runners
KP-4.22	4.22	9.125	6
KP-6.28	6.28	10.930	6
KP-8.40	8.40	14.435	6
KP-10.50	10.50	16.250	6
KP-12.50	12.50	18.125	6

Contact factory for other designs.

The BWM Model KP casing spacers is designed to support the pipelines without deformation of the legs. For proper installation the spacers should be installed 1 foot from each casing end, Install a spacer 1-foot from the pipe bell and every 4 - 8 feet on the pipe barrel.





Model KC Poly Spacer

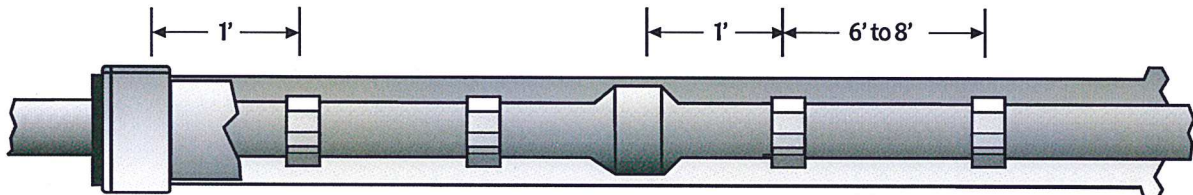
The Model KC injection-molded casing spacers are designed for IPS pipe. The spacers are fabricated in two sections for pipe up to 12 inches. Size 2" & 3" have molded grooves on the inner surface to prevent slippage on the pipe. Other sizes have a rubber liner.

Model KC Poly Spacer MATERIAL SPECIFICATIONS

- **DIELECTRIC STRENGTH**
(ASTM D-149 step by step method) 400-500 volts/mil
- **COMPRESSIVE STRENGTH**
(ASTM D-695) 3200 psi
- **FLEXURAL YIELD STRENGTH**
(ASTM D-790) 1000 psi
- **TENSILE STRENGTH**
(ASTM D-638, D-651) 3100 - 5500 psi
- **IMPACT STRENGTH**
(ASTM D-256) 4.0 ft lbs/in of notch
- **WATER ABSORPTION**
(ASTM D-570) <0.01%
- **MAX. CONTINUOUS OPERATING TEMP.**
225°F

IPS PIPE				
Model No.	Size	Min. casing	Diameter over runners	No. of runners
KC-2	2	4"	3.682	8
KC-3	3	6"	5.434	8
KC-4	4	6"	5.682	4
KC-6	6	10"	8.625	4
KC-8	8	12"	11.310	4
KC-10	10	14"	12.682	4
KC-12	12	16"	14.682	4

The BWM Model KC casing spacers is designed to support the pipe with spacer placement every 6 to 8 feet.



Warranty

The BWM Company warrants all products against defects in material or workmanship for a period of one year from receipt of order. The BWM Company is not liable or responsible for any loss damage or injury to any person or property directly or indirectly arising from the use of our products. No claims of labor or damage will be allowed. No other warranties whether written, oral or implied. Customer assumes all liability in the handling, use and application of our products.

PRESENTED BY

Other Products Available

**PIPE SEALS
PIPE SLEEVES
VENT PIPES**



04/07